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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/507,116

09/10/2004

Masafumi Fukuzumi

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05/08/2007

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EXAMINER

SHEEHAN, JOHN P

ART UNIT

PAPER NUMBER

1742

MAIL DATE

DELIVERY MODE

05/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/507,116	Applicant(s) FUKUZUMI ET AL.	
	Examiner John P. Sheehan	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-8 and 10-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8 and 10-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 to 4, 8 and 10 to 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Takebuchi et al. (Takebuchi, US Patent No. 5,595,608, cited in the IDS submitted September 10, 2004).

Takebuchi teaches a method of making a sintered rare earth-iron-boron magnet having a composition that overlaps the claimed permanent magnet composition (column 14, lines 36 to 55) wherein a main phase rare earth alloy (column 8, lines 9 to 15) optionally containing Cr and C (column 8, lines 40 to 46) having a composition that overlaps the main phase alloy composition recited in the instant claims and a grain boundary phase having a composition that overlaps the composition of the grain boundary phase recited in the instant claims (column 10, lines 35 to 40) are mixed and

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sintered (column 20, line 50 to column 21, line 8). Takebuchi is considered to teach the invention recited in claims 1 to 5 and 8 to 13.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6 and 7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ueda et al. (Ueda, Japanese Patent Document No. 04-268051 cited in the IDS submitted September 10, 2004).

Applicants discuss Ueda at page 6, line 7 to page 7, line 6 of the instant specification in the specification. Ueda teaches a method of making a rare earth-Fe-Co-B-C sintered magnet (Abstract). Applicants disclose that Ueda teaches adding Cr to the main phase of a rare earth sintered and C to the boundary layer phase of the sintered rare earth magnet (see instant specification, page 6, lines 9 and 10 and page 6, lines 18 and 19). Thus, teaches a main phase containing Cr as recited in the instant claims and a grain boundary phase containing C as recited in the instant claims.

Ueda is silent as natural electrode potential of the disclosed composition.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the composition taught by Ueda has a composition that is encompassed by the instant. In view of this, the

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composition taught by Ueda would be expected to possess all the same properties as recited in the instant claims, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' *In re Spada*, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

6. Claims 6 and 7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Takebuchi et al. (Takebuchi, US Patent No. 5,595,608, cited in the IDS submitted September 10, 2004).

Takebuchi teaches as set forth above.

Takebuchi is silent as to natural electrode potential of the disclosed composition.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the composition taught by Takebuchi has a composition that is encompassed by the instant. In view of this, the composition taught by Takebuchi would be expected to possess all the same properties as recited in the instant claims, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same,

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the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

Response to Arguments

7. Applicant's arguments filed March 5, 2007 have been fully considered but they are not persuasive.

8. The original rejection of claims 1 to 5 and 8 to 13 (of these claims only claims 1 to 4, 8, and 10 to 13 remain in the application) under 35 USC 102(b) as anticipated by Ueda et al. (Japanese Patent Document No. 04-268051 has been withdrawn in view of the combination of applicants' arguments and the Examiner's evaluation of Example 16 appearing in Ueda et al.'s Table 3. Ueda et al.'s Example 16 alloy contains 7 at.% C overall or 1.22 weight % C, however the grain boundary phase contains 4.5 weight % C (see column 4 in Table 3). In view of the fact that the grain boundary phase of Ueda et al.'s Example 16 contains so much more C (4.5 wt%) than the overall alloy (1.22 wt% C) it is clear that the grain boundary phase of Ueda et al.'s alloy contains more C than the main phase, which is contrary to the limitations set forth in applicants' claims 1 to 4, 8 and 10 to 13, which requires that, "the concentration of carbon in the main phase is higher than that of carbon in the grain boundary phase".

9. Applicants' argue that;

Ueda fails to disclose or render obvious a sintered magnet comprising an $R_2T_{14}Q$ type

tetragonal compound (where R is at least one rare-earth element, T is at least one transition metal element always including Fe, and Q is boron and carbon), as is recited in amended claims 1 and 8. In addition, according to Ueda, C is not added to the main phase, but is instead added to the boundary layer phase of the sintered magnet. In contrast, independent claims 1, 6, and 8 recite that the $R_2T_{14}Q$ type tetragonal compound includes C, and is used as a main phase.

The Examiner is not persuaded. Ueda does in fact teach a sintered magnet (Ueda, English translation, paragraph 0046, the last 2 lines) having the $R_2T_{14}Q$ tetragonal structure (paragraph 0007 and 0016) wherein R is at least one rare earth element, T is at least one transition element and Q is C and B (paragraph 0017). Regarding the presence of C in the main phase vs. the grain boundary phase it is the Examiner's position that since Ueda's sintered product is made from a single alloy powder mixed with carbon black (for example, paragraph 0046) it would be expected that there would be some carbon in the main phase. It would not be expected that 100% of the C in Ueda's sintered product would migrate to the boundary layer phase and that there would be absolutely no C left in the main phase. Thus, the main phase of Ueda's sintered product would contain some C, which is all that is required by the instant claims 6 and 7.

10. Applicants', citing Takebuchi column 15, lines 22 to 28, argue that the instant claims require a significantly higher amount of C than the incidental impurities or trace amounts of C or O taught by Takebuchi. The Examiner is not persuaded. Takebuchi

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also teaches that C can be purposefully added in an amount of up to 6% (column 15, lines 22 to 25) which encompasses the C content recited in applicants' claims.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

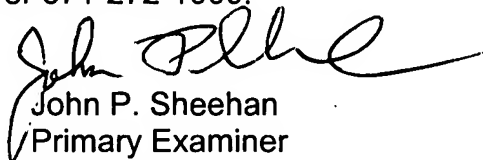
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John P. Sheehan
Primary Examiner
Art Unit 1742

jps